Ex 3:- Study the packet tracer tool

Aim: To study the packet tracer tool installation and user interface overview

Introduction:

A simulator, as the name suggests, simulates network device and its environment. Packet Tracker is an exciting network design, simulation and modelling tool.

i) It allows you to model complex systems without the need for dedicated equipment.

ii) It helps you to practice your network configuration and troubleshooting skills via computer or on android or ios.

iii) It is available for both the Linux and Windows desktop environments

iv) Protocols in packet tracer are coded to work and behave in the same way as they would on real hardware.

Analyse the behaviour of network devices using CISCO packet tracer simulator

1) From the network component box, click and drag-and-drop the below components

a) 4 Generic PCs and One HUB

b) 4 Generic PCs and one switch

2) Click on Connections:

a) Click On Copper straight-Through cable,

b) Select one of the PC and connect it to HUB using the cable. The link LED should glow in green, indicating that the link is up. Similarly connect remaining 3 PCs to the HUB.

c) Similarly connect 4PCs to the switch using copper straight-through cable

3 Click on the PCs connected to hub, go to the desktop tab, click on IP configuration, and enter an IP address and subnet mask.

4) Observe the flow of PDU from source PC to destination PC by selecting the realtime mode of simulation

5) Repeat step #3 to step #5 for the PC's connected to the switch

6) Observe how HUB and switch are forwarding the PDU and write your observation and conclusion about the

behaviors of switch and HUB.

User interface Overview:

The layout of packet Tracer is divided into several components

1. Menu Bar – This is a common menu found in all software application, it is used to open, save.

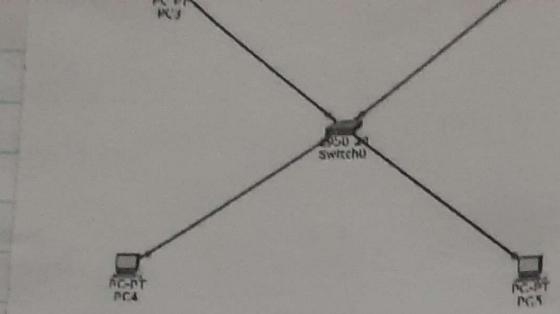
2. Main Toolbar – This bar provides shortcut icons to menu options that are commonly accessed such as open, save.

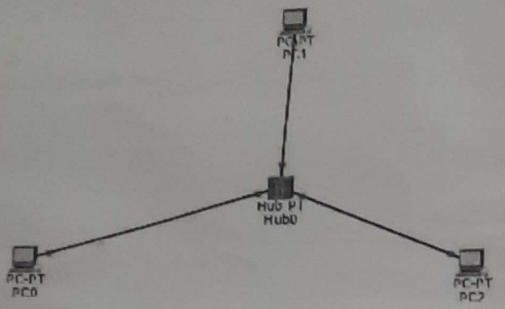
3. Logical/Physical workspace tabs – These tabs allow you to toggle between the logical and physical work areas.

4. Workspace – This is the area where topologies are created and simulations are displayed.

5. Common tools bar – This toolbar provides control for manipulating topologies such as select, move layout, place note, delete.

6. Real-time/Simulation tabs – These tabs are used to toggle between the real and simulation modes.





Student Observation:

1) From your observation write down the behaviour of switch and HUB in terms of forwarding the packets received by them.

Ans HUB: A hub is a basic networking device that broadcasts all incoming packets to all ports, regardless of the destination. It operates at physical layer of the OSI model

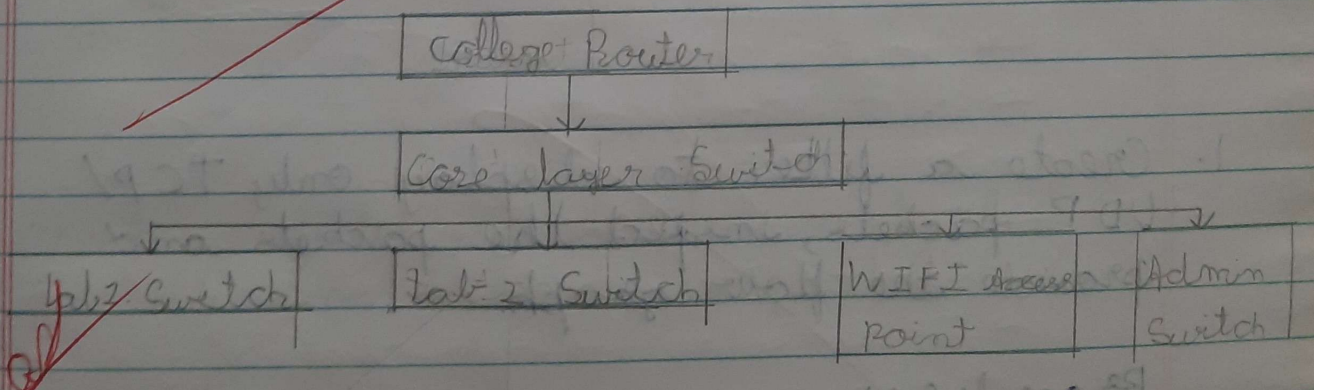
It does not filter traffic or known the MAC addresses of connected devices.

Switch: A switch operates at data link layer and forwards packet only to the specific port associated with the destination MAC address.

2) Find out the network topology implemented in your college and draw and label that topology in your observation book.

Ans: The topology implemented in the college is star topology. It is the type of the topology which is described in the below.

- All computers (clients) are connected to a central networking device, typically switch
- The switch is then connected to a router for internet access.
- Servers also be connected to switch



Result:

Thus the behaviour of network devices has been successfully analysed using CISCO packet tracer simulator.